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EXAMINER

MARIAM, DANIEL G

ART UNIT PAPER NUMBER

2625

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,985

Applicant(s)

FUJII ET AL.

Examiner

DANIEL G. MARIAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

1. Applicants' arguments (with respect to independent claim 6) filed May 5, 2005 have been fully considered but they are not deemed to be persuasive for at least the following reasons.

Applicants argue on page 10 of the remarks, that Hämäläinen does not show or suggest the limitation of “replacing a similar reference image that is similar to the input image with a new reference image. Moreover, replacement of the stored profile would be inconsistent with Hämäläinen goal of providing a secured access system. The Examiner disagrees. First, the entire specification refers “updating” instead of “replacing”, and it is the Examiner’s position that these terms may be used interchangeably. Second, at col. 4, lines 33- 49, Hämäläinen states: “The 3-D model and the facial texture, information of the user are then compared with a previously created user profile stored in a memory contained within computer 20 (step 40). If the 3-dimensional data points match the points in the profile accurately enough and the facial texture bit map sufficiently matches the stored profile, access is granted (step 42) to the system or specific files. If the comparison does not result in sufficiently positive identification of the user, access is denied (step 44). Other features of the present invention may include a profile adjustment procedure performed during the match step 40. An example of when such adjustment would be necessary would be when the user's facial shape has changed for reasons such as, gaining weight or aging. In these instances, the user's profile may be *updated* during the match step to ensure correct recognition of the user for future applications.” What this means is that, the previously created user profile will be replaced by the new profile reflecting the changes during matching so as to make accurate recognition of the user in the future. Thus, Hämäläinen does meet applicants’ claimed invention recited in claim 6.

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2. Applicants' arguments, see pp. 10-12, filed May 5, 2005, with respect to the rejection(s) of independent claim(s) 1, 11, 13-14, and 19 under 35 U.S.C. 102 (e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Gokcebay (5,337,043) which will be discussed in the rejection below.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 6-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Hämäläinen (6,775,397).

With regard to claim 6, Hämäläinen discloses an image recognition apparatus (See for example, Figure 1) comprising: a reference image memory for storing at least one reference image, i.e., previously created user profile that is stored in a memory of computer 20, in Fig. 1, used for image recognition (See for example, col. 4, lines 34-35); an input image receiver for receiving, in real time, an input image to be recognized (See computer 20, in Fig. 1; and col. 4, lines 15-17); a similarity detector for comparing the input image received by the input image receiver with the at least one reference image stored in the reference image memory, and for determining whether or not a reference image is similar, i.e., match, to the input image, i.e., 3D

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model and facial texture (See for example, col. 4, lines 30-30-39); and a renewal controller, said renewal controller replacing, i.e., updating, a similar reference image that is similar to the input image with a new reference image based on the input image when the similarity detector determines that the similar reference image is present, i.e., existence of a match, in the reference image memory (See col. 4, lines 42-60).

With regard to claim 7, an image recognition apparatus according to claim 6, wherein the similarity detector is *adapted to* compare the input image successively with reference images stored in the reference image memory (See col. 4, lines 30-41; and col. 5, lines 22-24. Please note, a recitation of the intended use, i.e., adapted to, of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. Applicants may amend the claim by replacing “adapted to” with “arranged to or configured to”).

With regard to claim 8, an image recognition apparatus according to claim 6, further comprising an extractor (computer 20) for extracting an image of a face of a person from an image, said extractor storing said image of the face in the reference image memory, and wherein the similarity detector is *adapted to* (see note set forth above for claim 5) compare the image of the face extracted from the input image by the extractor with images of faces stored in the reference image memory, and to determine whether or not images being compared are similar to each other (See for example, col. 4, lines 15-41).

With regard to claim 9, an image recognition apparatus according to claim 8, wherein, when images, i.e., first and second images shown in Fig. 3, of a plurality of faces are extracted from the input image by the extractor, said similarity detector compares the extracted image of each one of said plurality of faces successively with the reference images stored in the reference image memory (See col. 4, lines 30-41; and col. 5, lines 22-24).

With regard to claim 10, an image recognition apparatus according to claim 6, wherein said similarity detector is *adapted to* (see note set forth above for claim 5) compare a feature, i.e., facial texture, for example, obtained from the input image with a feature obtained from a reference image and to determine whether or not the input image and the reference image are similar to each other (See items 36 and 38, in Fig. 6).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Moulton (4,468,807).

With regard to claim 6, Moulton discloses an image recognition apparatus (See for example, Figure 1) comprising: a reference image memory for storing at least one reference image, i.e., stored recognition data or abstraction files of the person's palm, used for image recognition (See for example, memory device 20; and col. 8, lines 41-42); an input image receiver for receiving, in real time, an input image, i.e., new recognition data or palm image, to be recognized (See item 25, in Fig. 1; and col. 8, lines 37-40); a similarity detector, i.e., test unit, for comparing the input image received by the input image receiver with the at least one

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reference image stored in the reference image memory, and for determining whether or not a reference image is similar, i.e., match, to the input image (See for example, col. 4, lines 11-47; and col. 8, lines 43-50); and a renewal controller, said renewal controller replacing, i.e., updating/replacing, a similar reference image that is similar, i.e., match and/or sufficiently accurate, to the input image with a new reference image based on the input image when the similarity detector determines that the similar reference image is present in the reference image memory (See for example, col. 8, lines 49-52).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-5 and 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hämäläinen (6,775,397) in view of Gokcebay (5,337,043).

With regard to claim 1, Hämäläinen discloses an image recognition apparatus (See for example, Figure 1) comprising: a reference image memory for storing one or more reference image, i.e., previously created user profile that is stored in a memory of computer 20, in Fig. 1, used for image recognition (See for example, col. 4, lines 34-35); a similarity detector for comparing an input image, to be recognized, with the one or more reference image stored in the reference image memory, and for determining whether or not a reference image is similar, i.e., match, to the input image, i.e., 3D model and facial texture (See for example, col. 4, lines 30-30-39); a comparison controller that, when the similarity, i.e., match, detector determines that a

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similar reference image that is similar to the input image is present, i.e., existence of a match, compares (this feature is considered inherent because some type of comparison is required to determine differences or similarities between the inputted data and the stored data) the information on (a time of photo taking) of the input image, i.e., the image currently processed which may require adjustments for changes in the user's facial shape due to aging or gaining weight, and (a time of photo taking) of the similar reference image, i.e., the user profile previously stored without the above-identified changes, and a renewal controller for renewing, i.e., updating, the similar reference image stored in the reference image memory based on the input image, when the comparison controller determines that the input image is newer than the similar reference image (See col. 4, lines 42-60).

While Hämäläinen performs a profile adjustment during matching, when the user's facial shape has changed for reasons such as, aging, which obviously includes a time factor (See for example, col. 4, lines 43-46), Hämäläinen does not expressly call for comparing information on a time of phototaking of the input image and a time of photo taking of the similar reference image. However, Gokceby discloses a high security access control system, where a key-holder places his key into a keywa against a reader, which reads the encoded, digitized information which relates specifically to the intended keyholder. This information as read is briefly stored in a memory associated with a small processor connected to the key reader. The keyholder may then be prompted to place a selected finger against a transparent window of a fingerprint reader. The fingerprint reader scans the fingerprint, and this scanned information is compared with the encoded information. It should be understood that other features unique to the intended keyholder can be used, as mentioned above such as a retina scan or a photograph. If the actual

fingerprint matches sufficiently closely to the fingerprint as encoded and stored on the key, a provisional decision is made by the small processor to grant access to the key holder. In some applications a time/date access decision will also be required, with that decision made by a central processor, based on whether the particular key-holder is to be permitted access to that area at the particular time (See col. 2, lines 48-68).

Hämäläinen and Gokceby are combinable because they are from the same field of endeavor, i.e., granting or denying access to a particular area (See for example, Fig. 3). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Gokcebay with Hämäläinen. The motivation for doing so is to grant or deny access to an individual based on a time factor (See col. 2, lines 61-68). Therefore, it would have been obvious to combine Gokcebay with Hämäläinen to obtain the invention as specified in claim 1.

With regard to claim 2, an image recognition apparatus according to claim 1, further comprising a photo taking time information receiver that receives input of the information on the time of photo taking of the input image and adds the information to the input image (See for example, items 32 and 36, in Fig. 6 of Hämäläinen).

With regard to claim 3, an image recognition apparatus according to claim 1, further comprising an extractor (computer 20) for extracting an image of a face of a person from an image, said extractor storing the image of the face in the reference image memory, and wherein the similarity detector is *adapted to* compare the image of the face extracted from the input image by the extractor with images of faces stored in the reference image memory, and to determine whether or not images being compared are similar to each other (See for example, col. 4, lines 15-41 of Hämäläinen. Please note, a recitation of the intended use, i.e., adapted to, of the

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claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. Applicants may amend the claim by replacing “adapted to” with “arranged to or configured to”).

With regard to claim 4, an image recognition apparatus according to claim 1, wherein the similarity detector is *adapted to* (see note set forth above for claim 3) compare the input image successively with each of a plurality of reference images stored in the reference image memory (See col. 4, lines 30-41; and col. 5, lines 22-24 of Hämäläinen).

With regard to claim 5, an image recognition apparatus according to claim 1, wherein said similarity detector is *adapted to* (see note set forth above for claim 3) compare a feature, i.e., facial texture, for example, obtained from the input image with a feature obtained from a reference image and to determine whether or not the input image and the reference image are similar to each other (See items 36 and 38, in Fig. 6 of Hämäläinen).

Claims 11 and 12 are rejected the same as claims 1 and 4 respectively except claims 11 and 12 are directed to method claims. Thus, arguments similar to those presented above for claims 1 and 4 are respectively applicable to claims 11 and 12.

Claim 13 is rejected the same as claim 11. Thus, argument similar to that presented above for claim 11 is applicable to claim 13. Hämäläinen further discloses a computer-readable

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recording medium having recorded thereon a program for performing the steps discussed in claim 11 (See for example, Fig. 2).

With regard to claim 14, claim 1 encompasses the limitation of this claim. Thus, argument analogous to that presented above for claim 1 is applicable to claim 14.

With regard to claim 15, an image recognition apparatus according to claim 14 wherein, said renewal controller is adapted to renew said reference image based on said input image when said time associated with said input image is after said time associated with said reference image (which is the case from the language of Hämäläinen described at col. 4, lines 34-35, wherein the stored profile of the user information is a previously created profile meaning before the current image which suppose to be compared against the previously created user profile for recognition).

With regard to claim 16, an image recognition apparatus according to claim 14 wherein, said similarity detector is adapted to compare a different reference image with said input image, when said similarity detector determines that said input image is not similar to said reference image (See col. 4, lines 39-60).

With regard to claim 17, an image recognition apparatus according to claim 14, wherein when said similarity detector determines that said reference image is not similar to said input image, said reference image memory is adapted to store said input image and information relating to said input image (which reads on col. 4, lines 55-60).

With regard to claim 18, an image recognition apparatus according to claim 17, wherein when said information relating to said input image matches information relating to said reference image, said renewal controller is adapted to renew said reference image based on said input

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image when said time comparison controller determines that said time associated with said input image is after a time associated with said reference image.

Claim 19 is rejected the same as claim 1 except claim 19 is a method claim. Thus, argument analogous to that presented above for claim 1 is applicable to claim 19.

With regard to claim 20, a method for recognizing an image according to claim 19, wherein said step of renewing the similar reference image is performed when the time associated with the input image is after the time associated with the similar reference image (which is the case from the language of Hämäläinen described at col. 4, lines 34-35, wherein the stored profile of the user information is a previously created profile meaning before the current image which suppose to be compared against the previously created user profile for recognition).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Number: 6,829,395.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G. MARIAM whose telephone number is 571-272-7394. The examiner can normally be reached on M-F (7:00-4:30) FIRST FRIDAY OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BHAVESH M. MEHTA can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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DANIEL MIRIAM
PRIMARY EXAMINER

July 27, 2005